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APPENDIX C

That which is ed is:

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1. A method for targeting a biologic structure to [affect] augment its function [characterized by the method] which comprises irradiating the biologic structure with
5 acoustic energy having a frequency near or at the resonant frequency of the biologic structure to induce acoustic resonance therein.

2. The method according to claim 1, [characterized by] further comprising [the step of] determining an acoustic signature of the biologic structure [after being induced into acoustic resonance].

10 3. [The method according to claim 1 characterized by further comprising the step of] A method for targeting a biologic structure to affect at least one function which comprises irradiating the biologic structure with acoustic energy having a frequency near or at the resonant frequency of the biologic structure to induce acoustic resonance therein, and determining at least one [an] acoustic signature and at least one acousto-EM
15 signature of the biologic structure [after the biologic structure is induced into acoustic resonance].

4. The method according to claim 1, [characterized by] further comprising irradiating the [specific] biologic structure with at least one [electromagnetic energy equivalent to a predetermined] acousto-EM signature of the biologic structure [in acoustic resonance].

20 5. The method according to claim 1, [characterized in that the] wherein said acoustic energy is applied at a sufficient power intensity to augment at least one [affect] function[s] of the biologic structure, said at least one function being selected from the group of functions consisting of growth, reproduction, regeneration, embryogenesis,

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metabolism, fermentation, germination, oxidation or reduction activity, wound healing and tissue cutting.

6. The method according to claim [5] 3, [characterized in that the functions are] wherein said at least one function is selected from the group of functions consisting of
5 disruption and augmentation.

7. The method according to claim 6, wherein said disruption comprises at least one
function selected from the group of functions consisting of (a) structural failure of at
least one component in the biologic structure, (b) inhibition of vital processes required
for growth, reproduction, metabolism, virulence, and infectivity; and wherein said
10 augmentation comprises at least one function selected from the group of functions
consisting of growth, reproduction, regeneration, embryogenesis, metabolism,
fermentation, germination, oxidation or reduction activity, wound healing and tissue
cutting and (c) lysis, shattering, rupture and inactivation.

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[7] 8. A method for targeting a specific biologic structure to affect [its] at least one
15 function of the biologic structure [characterized without effecting nearby structures
characterized by the steps] comprising:

[a] determining at least one resonant acoustic frequency of the specific biologic
structure; and

b)] irradiating the biologic structure with at least one electromagnetic (EM)
20 property and/or field to result in acoustic energy having a frequency including [the] said
at least one resonant acoustic frequency of the biologic structure [to induce acoustic
resonance therein], the acoustic energy being [applied at a power output level] present in
an amount sufficient to affect [functioning] at least one function of the biologic structure.

AFFECT
BIOLOGIC
STRUCTURE
BY
EM & ACOUSTIC

[9. The method according to claim 7 characterized in that the functioning of the biologic structure is disrupted.]

[8] 9. The method according to [claim 7 characterized in that the functioning of the biologic structure is augmented] claim 8, wherein said at least one function is selected
5 from the group of functions consisting of disruption and augmentation.

10. The method according to claim 8, [7characterized in that the] wherein said
biologic structure [is] comprises at least one structure selected from the group of
structures consisting of virus, bacteria, fungi, tissue masses, worms, arthropods, chitins,
plants, animals, microorganisms, multicellular organisms, protozoa, liver, muscle, feet,
10 brain, kidney, spleen, blood, lung, lens of eye, aqueous humor, vitreous humor, animal
cell, plant cell, proteins, molecules, cell wall, capsule, spore, pili, plasma membrane,
organ, portions of structures, components of structures flagellum, cytoplasmic inclusion
body, basal body, parasite, appendages, skin, shell, egg, cement/cement plate and bone.

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11. A method for specifically targeting a biologic structure and affecting [its] at least
15 one function of the biologic structure by inducing acoustic resonance therein
[characterized by the steps] comprising:

(a) applying at least one resonant acoustic frequency of the biologic structure
and/or introducing electromagnetic energy equivalent to a predetermined electromagnetic
energy pattern of the biologic structure; and]

20 a) applying at least two energies selected from the group consisting of at least
one acoustic energy and at least one electromagnetic energy, wherein at least one of said
at least two energies result in said biologic structure being in acoustic resonance and at
least a second of said at least two energies provides additional energy to said biologic
structure; and

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2. ELECTROMAGNETIC
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b) applying [(a) and/or (b) each at] said at least two energies such that a power intensity level is achieved to induce acoustic resonance within the targeted biologic structure and to affect at least one function[ing] therein.

12. The method according to claim 11, [characterized in that the functioning of the
5 biologic structure is augmented] wherein said at least one function comprises at least one function selected from the group of functions consisting of augmenting and disrupting.

13. The method according to claim 11, [characterized in that the functioning of the biologic structure is disrupted] wherein each of said at least two energies results in
acoustic resonance within the targeted biologic. P.8.1
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10 14. The method according to claim 11, [characterized in that the electromagnetic energy pattern is manifested as a electromagnetic property selected from] wherein said at least two energies comprise at least two energies selected from the group consisting of
direct current, alternating current, electric field, magnetic field, electromagnetic radiation
and acoustic energy.

15 15. The method according to claim 14, [characterized in that] wherein a frequency of the alternating current is applied to the structure.

16. A method for targeting a biologic structure to affect at least one function of the biologic structure [its function characterized by the step which comprises] comprising
applying electromagnetic energy to the biologic structure to induce acoustic resonance

20 therein and affect said at least one function [its functions].

17. The method according to claim 16, [characterized in that the] wherein said
electromagnetic energy comprises at least one source selected from the group consisting
of [is equivalent to an] at least one electromagnetic energy pattern of the biologic
structure [and/or] energy equivalent in frequency to at least one resonant acoustic

Affected
Biologic
EM \Rightarrow Acoustic
Resonance

frequency of structure, at least one acousto-EM signature and at least one resonant acousto-EM energy.

18. The method according to claim 16, [characterized in that the] wherein said electromagnetic energy is applied at a power output level sufficient to affect at least one function [functioning] of the biologic structure, [the functioning being] said at least one function being selected from the group consisting of augmentation [or] and disruption.

19. The method according to claim 16, [characterized by further comprising determining] wherein said electromagnetic energy comprises at least one energy selected from the group consisting of direct current, alternating current, electric field, magnetic field, electromagnetic radiation, and fields which include waves, current, flux, resistance, potential and radiation [an acousto-EM signature of the biologic structure].

20. The method according to claim [17] 19, wherein said electromagnetic energy comprises at least one applied acousto-EM signature of the biologic structure [characterized by further comprising comparing the acousto-EM signature of the biologic structure to a previously determined reference acousto-EM signature].

21. The method according to claim 16, further comprising determining at least one signature of the biologic selected from the group of signatures consisting of at least one acousto-EM signature and at least one acoustic signature [characterized by further comprising determining an acoustic signature of the biologic structure].

22. The method according to claim [16] 21, wherein said at least one signature [characterized by further comprising comparing the acoustic signature] of the biologic structure is compared to [a] at least one previously determined reference [acoustic] signature.

23. A method to induce acoustic stimulation of a biologic structure to detect and/or identify [the] a biologic structure [characterized by the steps] comprising:

a) applying to the biologic structure at least one acoustic energy [having a] comprising at least one non-resonant frequency to stimulate the biologic structure; and

5 b) receiving at least one electromagnetic energy pattern from the structure [after the acoustic energy has interacted with the structure]; and

c) determining [the] at least one non-resonant electromagnetic signature of the stimulated biologic structure.

24. A system for inducing acoustic stimulation of a biologic structure to detect and/or

10 identify [the] a biologic structure [characterized by] comprising:

a) means for applying to the biologic structure at least one acoustic energy [having a] comprising at least one non-resonant frequency to stimulate the biologic structure; and

b) means for receiving at least one electromagnetic energy pattern from the
15 structure [after the acoustic energy has interacted with the structure]; and

c) means for determining [the] at least one non-resonant electromagnetic signature of the stimulated biologic structure.

25. A method for detecting and/or identifying an inorganic or biologic structure [characterized by the steps] comprising:

20 a) inducing acoustic resonance in the structure; and

b) detecting at least one acousto-EM [an acoustic] signature of the structure.

26. The method according to claim 25 [characterized by] further comprising comparing [a] at least one currently determined [acoustic] acousto-EM signature with [a] at least one previously determined [acoustic] acousto-EM signature of the structure.

27. The method according to claim 25, [characterized by further comprising detecting a resonant] wherein said at least one acousto-EM signature is produced by at least one of acoustic energy and electromagnetic properties and/or fields [of the structure by detecting at least one electromagnetic property of energy caused by inducing acoustic resonance in the targeted structure.]

28. The method according to claim 25, [characterized in that] wherein acoustic resonance is induced with the introduction of at least one energy selected from the group consisting of acoustic energy including at least one resonant acoustic frequency of the structure, electromagnetic energy which is substantially equivalent to at least one resonant acoustic frequency of the structure and electromagnetic energy which is substantially equivalent to at least one acousto-EM signature of the structure.

29. A system for identifying a structure by determining [the] at least one resonant acoustic signature of the structure [characterized by] comprising:

- a) means for inducing acoustic resonance in the structure;
- b) means for detecting [the] at least one acoustic signature of the structure; and
- c) means for comparing [the] said at least one acoustic signature of the structure with [a] at least one reference acoustic signature [of the structure].

30. The system according to claim 29, [characterized by] further comprising a means for detecting [an] at least one acousto-EM [energy] signature of the structure [in acoustic resonance which comprises means for detecting at least one manifested electromagnetic property of the targeted structure].

31. The system according to claim 30, [characterized in that the] wherein said structure [is] comprises at least one member selected from the group consisting of inorganic and biologic structures.

32. The system according to claim 29, [characterized in that the] wherein said means for inducing acoustic resonance in the structure includes [a] at least one signal generating device and at least one transducer.

33. The system according to claim 32, [characterized in that] wherein placement of the transducer [is] comprises at least one location selected from the group consisting of on the bottom of a vessel, [as] on the walls of a vessel, in a vessel, intravascularly in the biologic structure, extracorporeally of the biologic structure, in vivo, in vitro, in a handheld probe, a piezoelectric sheet, in a remote control unit and in a scalpel tip.

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34. A system for identifying a structure by determining [an acoustic signature and/or] at least one acousto-EM signature of the structure [characterized by] comprising:

- a) means for inducing acoustic resonance in the structure;
- b) means for detecting [an acoustic and/or] said at least one acousto-EM [energy] signature of the structure [in acoustic resonance].

35. A system for inducing acoustic resonance in a biologic structure to [affect functions characterized in that the system comprises] augment at least one function of the biologic structure comprising:

- a) means for generating [an] at least one acoustic signal;
- b) means for transmitting [the] said at least one acoustic signal to the biologic[al] structure; and
- c) means for controlling the power level of [the] said at least one acoustic signal to [affect functions] augment at least one function of the biologic structure.

36. [The] A system [according to claim 35 characterized by further] for inducing acoustic resonance in a biologic structure to affect at least one function of the biologic structure comprising:

IDENTIFY
SOME

AUGMENT
BIOLOGIC

a) means for generating [an] at least one electromagnetic signal; and

b) means for transmitting [the] said at least one electromagnetic signal to the biologic structure.

37. A system for determining induction of acoustic resonance in a structure

5 [characterized by the steps] comprising:

a) means for generating electromagnetic energy [equivalent to an] corresponding to at least one acousto-EM signature;

b) means for transmitting [the] said electromagnetic energy to the structure;

c) means for receiving [a] at least one signal from the structure [after the] when
10 said electromagnetic energy has interacted with the structure; and

d) means for determining induction of acoustic resonance in the structure.

38. A method for determining induction of acoustic resonance in a structure

[characterized by the steps] comprising:

a) irradiating the structure with electromagnetic energy [equivalent to an]
15 corresponding to at least one acousto-EM signature;

b) receiving [a] at least one signal from the structure [after the] when said electromagnetic energy has interacted with the structure; and

c) determining induction of acoustic resonance in the structure.

39. A method to affect at least one [the functioning] function of a living transducer

20 biologic structure [having a piezoelectric nature acting as a living transducer characterized by] comprising applying at least one electromagnetic energy to the biologic structure [with a piezoelectric nature, the] , said at least one electromagnetic energy [having] comprising at least one frequency which includes at least one [including the] resonant frequency of the biologic structure to induce acoustic resonance within the

biologic structure [being transducer], the energy being [applied at a power output level]
present in an amount sufficient to affect at least one function [functioning] of the
biologic structure.

40. A method for targeting an inorganic structure to affect said structure, the method
5 comprising applying at least one resonant acousto-EM energy.

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41. The method of claim 40, which said structure is affected by disruption.

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42. The method of claim 40, wherein said structure is affected by augmentation.

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43. A method for detecting an inorganic structure comprising:

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a) inducing acoustic resonance in the structure; and

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10 b) detecting at least one resonant acousto-EM energy.

44. A method for detecting an inorganic structure comprising:

a) inducing acoustic resonance in the structure by applying an acousto-EM

signature; and

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b) detecting at least one acoustic signature.

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